

What is claimed is:

1. A multilayer mat comprising:

an intumescent layer having a first major surface and a second major
surface opposite the first major surface, said intumescent layer having an area A1;
a first non-intumescent layer facing the first major surface of the
intumescent layer, said first non-intumescent layer comprising inorganic fibers and
said first non-intumescent layer having an area A2 that is greater than area A1; and
a second non-intumescent layer facing the second major surface of the
intumescent layer, said second non-intumescent layer comprising inorganic fibers,
said second non-intumescent layer having an area A3 that is greater than area A1,
wherein the intumescent layer is positioned entirely within the area of both the first non-
intumescent layer and second non-intumescent layer.

2. The multilayer mat of claim 1, wherein area A2 is substantially equal to area A3
and the first non-intumescent layer is aligned with the second non-intumescent layer.

3. The multilayer mat of claim 1, wherein the first non-intumescent layer has a length
L2 and the second non-intumescent layer has a length substantially equal to length L2 and
wherein the first non-intumescent layer has a width W2 and the second non-intumescent
layer has a width substantially equal to width W2.

4. The multilayer mat of claim 1, wherein first non-intumescent layer contacts the
second non-intumescent layer along at least one edge of the mat.

5. The multilayer mat of claim 1, wherein the intumescent layer is divided into at
least two segments that are separated from each other.

6. The multilayer mat of claim 1, wherein the intumescent layer has a thickness that is
5 to 25 percent of a total mat thickness.

7. The multilayer mat of claim 1, wherein the first non-intumescent layer has a first trough in a side facing the intumescent layer and the intumescent layer is positioned in the trough.

5 8. The multilayer mat of claim 7, wherein the second non-intumescent layer has second trough on a side facing the intumescent layer, the second trough is aligned with the first trough, and the intumescent layer is positioned in the first and second trough.

10 9. The multilayer mat of claim 7, wherein two or more layers of the multilayer mat are bonded together with an adhesive, needle bonding, or stitching.

15 10. The multilayer mat of claim 3, wherein the intumescent layer has a length $W1$ that is less than $W2$, the intumescent layer has a length $L1$ that is substantially equal to $L2$, and the second non-intumescent layer contacts the first non-intumescent layer along at least one edge of the multilayer mat.

11. The multilayer mat of claim 1, wherein both the first non-intumescent layer and the second non-intumescent layer each have a flat surface facing the intumescent layer.

20 12. The multilayer mat of claim 1, wherein a first end of the multilayer mat has a tongue and a second end of the multilayer mat has a groove for joining the first end to the second end.

25 13. A pollution control device comprising:
an outer metal housing;
a pollution control element; and
a multilayer mounting mat positioned between the pollution control element and the outer metal housing, said multilayer mat comprising
30 an intumescent layer having a first major surface and a second major surface opposite the first major surface, said intumescent layer having an area $A1$;

a first non-intumescent layer facing the first major surface of the intumescent layer, said first non-intumescent layer comprising inorganic fibers and said first non-intumescent layer having an area A2 that is greater than area A1; and
a second non-intumescent layer facing the second major surface of the intumescent layer, said second non-intumescent layer comprising inorganic fibers, said second non-intumescent layer having an area A3 that is greater than area A1, wherein the intumescent layer is positioned entirely within the area of both the first non-intumescent layer and second non-intumescent layer.

14. The pollution control device of claim 13, wherein area A2 is substantially equal to area A3 and the first non-intumescent layer is aligned with the second non-intumescent layer.

15. The pollution control device of claim 13, wherein the first non-intumescent layer has a length L2 and the second non-intumescent layer has a length substantially equal to length L2 and wherein the first non-intumescent layer has a width W2 and the second non-intumescent layer has a width substantially equal to width W2.

16. The pollution control device of claim 13, wherein the first non-intumescent layer contacts the second non-intumescent layer along at least one edge of the mat, said at least one edge being positioned at a gas inlet side of the pollution control device.

17. The pollution control device of claim 13, wherein the intumescent layer is divided into at least two segments that are separated from each other.

18. The pollution control device of claim 17, wherein the pollution control element has an elliptical cross-section and the segments of the intumescent layer are positioned over portions of the pollution control element with a smaller radius of curvature.

19. The pollution control device of claim 15, wherein the intumescent layer has a length W1 that is less than W2, the intumescent layer has a length L1 that is substantially

equal to L2, and the second non-intumescent layer contacts the first non-intumescent layer along at least one edge of the multilayer mat.

20. A method of forming a multilayer mat, said method comprising:

5 providing a intumescent layer having a first major surface and a second major surface opposite said first major surface, said intumescent layer having an area A1;

10 positioning a first non-intumescent layer facing the first major surface of the intumescent layer, said first non-intumescent layer comprising inorganic fibers and having an area A2 that is greater than area A1; and

positioning a second non-intumescent layer facing the second major surface of the intumescent layer, said second non-intumescent layer being aligned with the first non-intumescent layer and comprising inorganic fibers, said second non-intumescent layer having an area A3 that is greater than area A1,

15 wherein the intumescent layer is positioned entirely within the area of both the first non-intumescent layer and second non-intumescent layer.

21. The method of claim 20, wherein area A2 is substantially equal to area A3 and the first non-intumescent layer is aligned with the second non-intumescent layer.

20 22. The method of claim 20, wherein the first non-intumescent layer has a length L2 and the second non-intumescent layer has a length substantially equal to length L2 and wherein the first non-intumescent layer has a width W2 and the second non-intumescent layer has a width substantially equal to width W2.

25 23. The method of claim 20, wherein said forming comprises molding to prepare a first non-intumescent layer having a trough on a side facing the intumescent layer.

30 24. The method of claim 20, wherein the intumescent layer has a thickness that is 5 to 25 percent of a total mat thickness.

25. The method of claim 20, wherein the multilayer mat is free of intumescent material along at least one edge of the multilayer mat.

26. The method of claim 20, wherein said positioning comprises preparing an
5 intumescent layer having at least two segments and separating the segments.

27. The method of claim 22, wherein the intumescent layer has a width W1 that is less than W2, the intumescent layer has a length L1 is substantially equal to L2, and the multilayer mat is free of intumescent material along at least one edge of the multilayer mat.

10 28. The method of claim 20, said method further comprising cutting the multilayer mat to a size suitable for use as a mounting mat in a pollution control device.

15 29. The method of claim 28, wherein said cutting forms a mat with edges having a tongue and groove construction for joining the mat after being wrapped around a pollution control element.